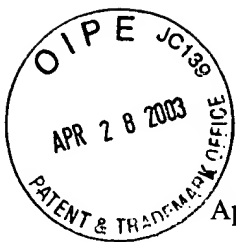


1651



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No.: 38228-0006

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TECH CENTER 1600/2900

Applicant: Lawrence Loomis et al.

Appl. No.: 09/844,435

Filing Date: April 30, 2001

Title: The Use of Bacterial Phage Associated Lysing Enzymes for Treating Various Illnesses

**INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR §1.56 and 37 CFR §1.97**

Commissioner for Patents
Washington, D.C. 20231

Sir:

Submitted herewith on Form PTO/SB/08A is a listing of documents known to applicants in order to comply with applicants' duty of disclosure pursuant to 37 C.F.R. §1.56 and §1.97. A copy of each of the listed documents is being submitted to comply with the provisions of 37 C.F.R. §1.97-1.99.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or is considered to be material to patentability as defined in 37 C.F.R. §1.56(b). Applicants do not waive any rights to take any action that would be appropriate to antedate or otherwise remove as a competent reference any document that is determined to be a *prima facie* prior art reference against the claims of the present application.

The relevance of the documents is described in the present specification. An English translation of the French document FR-2357246 A is not readily available; however, the absence of such translation does not relieve the PTO from its duty to consider the submitted document (37 CFR §1.98 and MPEP §609).

U.S. Serial No.: 09/844,435

Attorney Docket No.: 38228-0006

The instant Information Disclosure Statement is being filed in compliance with 37 CFR §1.97(b) prior to the mailing date of the first official action, therefore, no fee is required in connection with its filing. However, the Commissioner is hereby authorized to charge any deficiency or to credit any overpayment to Deposit Account No. 08-1641.

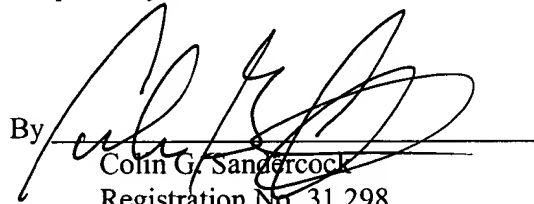
Attached as Appendix A is a list of all patents and applications filed by the present inventive entity relating to phage associated lytic enzymes and their uses. The listed U.S. patents are cited in the attached form SB/08A.

Applicants respectfully request that the listed documents be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08A be returned in accordance with M.P.E.P. §609.

Date: 4/28/03

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Respectfully submitted,

By 
Colin G. Sandercock
Registration No. 31,298
Customer No. 26633

Appendix A

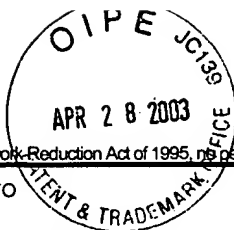
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07/621,716	June 18, 1984	4,784,948	November 15, 1988
09/257,025	February 25, 1999	6,017,528	January 25, 2000
09/257,026	February 25, 1999	5,985,271	November 16, 1999
09/333,538	June 15, 1999		
09/395,636	September 14, 1999	6,056,954	May 2, 2000
09/395,637	September 14, 1999	6,056,955	May 2, 2000
09/482,992	January 14, 2000	6,264,945	July 24, 2001
09/497,495	April 18, 2000	6,238,661	May 29, 2001
09/560,650	April 28, 2000		
09/653,690	September 1, 2000	6,254,866	July 3, 2001
09/654,482	September 1, 2000	6,399,097	June 4, 2002
09/654,483	September 1, 2000	6,423,299	July 23, 2002
09/654,484	September 1, 2000		
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09/671,880	September 28, 2000	6,406,692	June 18, 2002
09/671,881	September 28, 2000	6,428,784	August 6, 2002
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09/671,991	September 28, 2000	6,399,098	June 4, 2002
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09/703,164	November 2, 2000		
09/703,582	November 2, 2000		
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09/703,588	November 2, 2000		
09/703,595	November 2, 2000		
09/703,656	November 2, 2000		
09/703,685	November 2, 2000		

Appendix A

Serial No.	Filing Date	Patent No.	Issue Date
09/703,686	November 2, 2000		
09/703,739	November 2, 2000		
09/703,740	November 2, 2000		
09/704,148	November 2, 2000		
09/704,149	November 2, 2000		
09/752,731	January 3, 2001		
09/844,435	April 30, 2001		
09/846,688	May 2, 2001		
09/866,106	May 25, 2001		
09/908,737	July 19, 2001		
09/910,940	July 13, 2001		
09/932,460	August 20, 2001		
09/960,472	September 21, 2001		
10/012,032	December 11, 2001		
10/067,979	February 8, 2002		
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10/067,995	February 8, 2002		
10/083,142	February 27, 2002		
10/083,462	February 27, 2002		
10/104,488	March 25, 2002		
10/105,075	March 25, 2002		
10/105,076	March 25, 2002		
10/135,824	May 1, 2002		
10/135,825	May 1, 2002		
10/135,826	May 1, 2002		
10/135,851	May 1, 2002		
10/145,604	May 14, 2002		
10/176,375	June 21, 2002		
10/176,376	June 21, 2002		
10/176,403	June 21, 2002		
10/176,405	June 21, 2002		
10/219,250	August 16, 2002		

Appendix A

Serial No.	Filing Date	Patent No.	Issue Date
10/219,251	August 16, 2002		
10/252,031	September 23, 2002		
60/324,089	September 24, 2001		
60/380,875	May 17, 2002		



Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 1 of 11

Complete if Known

Application Number	09/844,435
Filing Date	04/30/01
First Named Inventor	Lawrence Loomis
Group Art Unit	1651
Examiner Name	Unassigned
Attorney Docket Number	38228-0006

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	1	US- 6056954	05/02/00	Fischetti, et al.	
	2	US- 5997862	12/07/99	Fischetti, et al.	
	3	US- 5985271	11/16/99	Fischetti, et al.	
	4	US- 5688501	11/18/97	Merril, et al.	
	5	US- 4742981	05/10/88	Converse	
	6	US- 2019789	11/05/35	Mahannah	
	7	US- 2763931	09/25/56	McMillan	
	8	US- 5479732	01/02/96	Burtch, et al.	
	9	US- 3465445	09/09/69	Fisher	
	10	US- 2315260	03/30/43	Lancaster	
	11	US- 5604109	02/18/97	Fischetti, et al.	
	12	US- 5260292	11/09/93	Robinson, et al.	
	13	US- 4957686	09/18/90	Norris	
	14	US- 6017528	01/25/00	Fischetti, et al.	
	15	US- 6132970	10/17/00	Stemmer	
	16	US- 3852424	12/03/74	Gaeumann, et al.	
	17	US- 6264945	07/24/01	Fischetti, et al.	
	18	US- 6254866	07/03/01	Fischetti, et al.	
	19	US- 6248324	06/19/01	Fischetti, et al.	
	20	US- 6238661	05/29/01	Fischetti, et al.	

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TECH CENTER 1600/2980**FOREIGN PATENT DOCUMENTS**

Examiner Initials *	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
	21	EP-0510907 A 2	10/28/92	Agricultural & Food Res.		
	22	WO-9702351	01/23/97	CIBA Geigy AG, et al.		
	23	WO-9607329	03/14/96	Univ. Maryland		
	24	WO-9904809	02/04/99	Ambi, Inc.		
	25	FR-2357246	02/03/78	Martinez		
	26	WO-9531562	11/23/95	Quest International B.V.		
	27	EP-587541 A1	03/16/94	Tecnogen ScpA		

Examiner
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Considered

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Sheet 2 of 11

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Application Number	09/844,435
Filing Date	04/30/01
First Named Inventor	Lawrence Loomis
Group Art Unit	1651
Examiner Name	Unassigned
Attorney Docket Number	38228-0006

U.S. PATENT DOCUMENTS

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		Number - Kind Code ² (if known)			
	28	US- 6056955	05/02/00	Fischetti, et al.	
	29	US- 5882631	03/16/99	Suga, et al.	
	30	US- 5741487	04/21/98	Asai, et al.	
	31	US- 6113887	09/05/00	Mori, et al.	
	32	US- 4122158	10/24/78	Schmitt	
	33	US- 3983209	09/28/76	Schmitt	
	34	US- 4885163	12/05/89	Shaar, et al.	
	35	US- 6177554	01/23/01	Woo, et al.	
	36	US- 6187757	02/13/01	Clackson, et al.	
	37	US- 5162226	11/10/92	Beachey, et al.	
	38	US- 6335012	01/01/02	Fischetti, et al.	
	39	US- 6326002	12/04/01	Fischetti, et al.	
	40	US- 6277399	08/21/01	Fischetti, et al.	
	41	US- 4062941	12/13/77	Davies	
	42	US- 5571667	11/05/96	Chu, et al.	
	43	US- 5514602	05/07/96	Brooks Jr, et al.	
	44	US- 5500350	03/19/96	Baker, et al.	
	45	US- 5384265	01/24/95	Kidwell, et al.	
	46	US- 4361537	11/30/82	Deutsch, et al.	
	47	US- 5120643	06/09/92	Ching, et al.	

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		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
	48	WO-9323544	11/25/93	The University Court of the University of Glasgow		
	49	EP-0293249 A1	11/30/88	Amrad Corporation Limited		
	50	EP-0646646 A2	04/05/95	Bristol-Myers Squibb Company		
	51	EP-0359873 A1	03/28/90	The Public Health Research Inst. of the City of New York		

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Sheet 3 of 11

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Application Number	09/844,435
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Filing Date	04/30/01
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First Named Inventor	Lawrence Loomis
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Group Art Unit	1651
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Examiner Name	Unassigned
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Attorney Docket Number	38228-0006
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U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	52	US-4948726	08/14/90	Longoria	
	53	US- 4459361	07/10/84	Geffer	
	54	US- 4552839	11/12/85	Gould, et al.	
	55	US- 4313734	02/02/82	Leuving	
	56	US- 4847199	07/11/89	Snyder, et al.	
	57	US- 4497900	02/05/85	Abram, et al.	
	58	US- 4707543	11/17/87	Zollinger, et al.	
	59	US- 5763251	06/09/98	Gasson	
	60	US- 6159688	12/12/00	Borchert, et al.	
	61	US- 4784948	11/15/88	Scott, et al.	
	62	US- 5760026	06/02/98	Blackburn, et al.	
	63	US- 5602040	02/11/97	May, et al.	
	64	US- 4521252	06/04/85	Miyake, et al.	
	65	US- 4355022	10/19/82	Rabussay	
	66	US- 4115546	09/19/78	Vidra, et al.	
	67	US- 4116327	09/26/78	Eglinton, et al.	
	68	US- 3929994	12/30/75	Hirsch, et al.	
	69	US- 6083684	07/04/00	Gasson	
	70	US- 5360617	11/01/94	Gasson	
	71	US- 5079174	01/07/92	Buck, et al.	

FOREIGN PATENT DOCUMENTS

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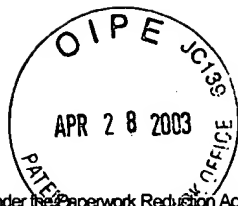
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³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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Sheet 5 of 11

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Application Number	09/844,435
Filing Date	4/30/03
First Named Inventor	Lawrence Loomis
Group Art Unit	1651
Examiner Name	Unassigned
Attorney Docket Number	38228-0006

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

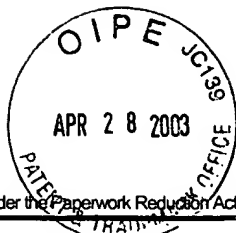
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	82	KH Nasibulini et al; RU-2103991; Composition for treating streptococcal diseases - comprises purified concentrate of streptococcal bacteriophage, solution of quinosol, dry lanolin, albumin and vegetable oil; XP-002141110	
	83	LD Demidova et al; RU2064299; Cattle mastitis therapeutic preparation - comprises lyso: amidase of specific lytic activity and mono- and di-basic sodium phosphate(s); XP-002141111	

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Sheet 6 of 11

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Application Number	09/844,435
Filing Date	04/30/01
First Named Inventor	Lawrence Loomis
Group Art Unit	1651
Examiner Name	Unassigned
Attorney Docket Number	38228-0006

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	84	BABENKO et al. Enzymatic lysis of staphylococci in relation to their species and strain properties, 1990, Database Medline Online, US National Library of Medicine, Bethesda, MD, US, Database Accession No. 90297672 XP002170795, abstract only	
	85	BARTELL, et al., Origin of polysaccharide depolymerase associated with bacteriophage infection, Journal of Virology, March 1969, pp. 290-296, Vol. 3, No. 3	
	86	BEHNKE, et al., Cloning and expression in Escherichia coli, Bacillus subtilis and Streptococcus sanguis of a gene for staphylokinase - a bacterial plasminogen activator, Mol Gen Genet, December 1987, pp. 528-534, Vol. 210	
	87	BESSEN, et al., Chemical characterization of binding properties of opacity-associated protein II from Neisseria gonorrhoeae, Infection and Immunity, January 1987, pp. 141-147, Vol. 55, No. 1	
	88	BIZIULEVICHUS, et al., In vivo studies on lysostatin: 3. Efficacy for treatment of mastitis and superficial lesions of the udder and teats in cows, 1998, Database Biosis Online, Biosciences Information Service, Philadelphia, PA, US, Database Accession No. PREV199800492606, XP002183274, abstract only	
	89	BOIZET, et al., Cloning, expression and sequence analysis of an endolysin-encoding gene of Lactobacillus bulgaricus bacteriophage mv1, Gene, 2000, pp. 61-67, Vol. 94	
	90	CALDWELL, et al., Purification and partial characterization of the major outer membrane protein of Chlamydia trachomatis, Infection and Immunity, March 1981, pp. 1161-1176, Vol. 31, No. 3	
	91	YOUNG et al. Phages will out: strategies of host cell lysis, Trends in Microbiology, Volume 8 No. 3, March 2000, pp 120-127	
	92	CORBEL, et al., Soluble antigens obtained from influenza virus by treatment with non-ionic detergent, J Hyg., Camb., 1970, pp. 81-96, Vol. 68	
	93	CROUX, et al., Interchange of functional domains switches enzymes specificity: construction of a chimeric pneumococcal-clostridial cell wall lytic enzyme, Molecular Microbiology, 1993, pp.1019-25, Vol. 9, No. 5	
	94	DIAZ, et al., Chimeric phage-bacterial enzymes: a clue to the modular evolution of genes, Proc. Natl. Acad. Sci. USA, October 1990, pp. 8125-8129, Vol. 87	

Examiner Signature		Date Considered	
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¹ Unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

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STATEMENT BY APPLICANT**

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Sheet 7 of 11

Complete if Known

Application Number	09/844,435
Filing Date	04/30/01
First Named Inventor	Lawrence Loomis
Group Art Unit	1651
Examiner Name	Unassigned
Attorney Docket Number	38228-0006

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	95	DIAZ, et al., Chimeric pneumococcal cell wall lytic enzymes reveal important physiological and evolutionary traits, Journal of Biological Chemistry, March 25, 1991, pp. 5464-5471, Vol. 266, No. 9	
	96	DIXON, et al., Lysostaphin: an enzymatic approach to staphylococcal disease. III. Combined lysostaphin-methicillin therapy of established staphylococcal abscesses in mice, The Yale Journal of Biology and Medicine, August 1968, pp. 62-68, Vol. 41, No. 1	
	97	FISCHEITL, et al., Size variation of the M protein in group A streptococci, Journal of Exp. Med., June 1, 1985, pp. 1384-1401, Vol. 161, No. 6	
	98	GARCIA, et al., Bacteriophages of Streptococcus pneumoniae: A molecular approach, Microbial Drug Resistance, Summer 1997, pp. 165-176, Vol. 3, No. 2	
	99	GARCIA, et al., Cloning, purification and biochemical characterization of the pneumococcal bacteriophage Cp-1 lysin, Journal of Virology, August 1987, pp. 2573-2580, Vol. 61, No. 8	
	100	GARCIA, et al., Modular organization of the lytic enzymes of streptococcus pneumoniae and its bacteriophages, Gene, 1990, pp. 81-88, Vol. 86	
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	102	GOLDBERG, et al., Studies in experimental staphylococcal endocarditis in dogs, Antimicrobial Agents and Chemotherapy, 1967, pp. 45-53	
	103	HARRISON, et al., Lysostaphin in experimental renal infections, Journal of Bacteriology, February 1967, pp. 520-524, Vol. 93, No. 2	
	104	HARRISON, et al., Therapeutic activity of lysostaphin in experimental staphylococcal infections, Canadian Journal of Microbiology, January 1967, pp. 93-97, Vol. 13, No. 1	
	105	HAYASHI, et al., Effects of N-Acetylmuramidase from Streptomyces rutgersensis H-46 as a food preservative, Agric. Biol. Chem., December 1989, pp. 3173-3177, Vol. 53, No. 12	

Examiner Signature		Date Considered	
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Sheet 8 of 11

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Application Number	09/844,435
Filing Date	04/30/01
First Named Inventor	Lawrence Loomis
Group Art Unit	1651
Examiner Name	Unassigned
Attorney Docket Number	38228-0006

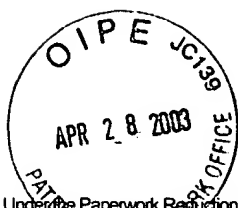
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	108	HUAN, et al., Methicillin-resistant staphylococcus aureus infection and its treatment in burned patients, Chinese Journal of Surgery, 1994, Vol. 32, No. 4, abstract	
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